

INITIAL STATEMENT OF REASONS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF THE STATE FIRE MARSHAL

**REGARDING THE 2016 CALIFORNIA BUILDING CODE,
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2**

2016 INTERIM RULEMAKING CYCLE

The Administrative Procedure Act (APA) requires that an Initial Statement of Reasons be available to the public upon request when rulemaking action is being undertaken. The following information required by the APA pertains to this particular rulemaking action:

STATEMENT OF SPECIFIC PURPOSE, PROBLEM, RATIONALE and BENEFITS:

Health and Safety Code Section 18928:

The specific purpose of this rulemaking effort by the Office of the State Fire Marshal (SFM) is to act in accordance with Health and Safety Code section 18928, which requires all proposed regulations to specifically comply with this section in regards to the adoption by reference with amendments to a model code within one year after its publication.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies addressed in the 2015 International Building Code and published as the 2016 California Building Code.

The general purpose of this proposed action is principally intended to update the 2016 California Building Code (California Code of Regulations, Title 24, Part 2) based upon updated information or recent actions of the SFM. This proposed action:

- Repeal certain amendments to the 2015 International Building Code and/or California Building Standards not addressed by the model code that are no longer necessary nor justified pursuant with Health and Safety Code 18930(a)(7).
- Adopt and implement additional necessary amendments to the 2016 California Building Code that address inadequacies of the 2015 International Building Code as they pertain to California laws.
- Codify non-substantive editorial and formatting amendments to the 2016 California Building Code.

Item 1. Photovoltaic systems clarification and editorial modifications.]

The OSFM is proposing the above modifications based on the proposal (F85-16) approved for the 2018 IFC Section. The proposal also correlates the changes in the California Building Code section 3111. These modifications are primarily editorial and provide additional clarification. The following is the rationale by the original proponent that proposed the modifications. This code proposal has been heard and accepted by the ICC Fire Code Committee at the ICC Code Hearings held April-May, 2016 in Louisville, KY. Final Action of these modifications was approved in October 2016, in Kansas City, MO. The SFM is bringing these proposals forward in part to further implement the State's Renewable Portfolio Standard (RPS) and provide necessary tools for enforcement officials, building owners, manufacturers and the construction industry. The complete rationale can be found

in the California Fire Code Initial Statement of the Reason for the corresponding proposal.

[Item 2. Correlation of regulations regarding modifications for the use of Stand-alone Pump and Tanks in residential fire sprinklers in the California Residential Code.]

Amendments to NFPA 13D in Chapter 44

The OSFM is proposing the above the above regulation to correlate with California Residential Code amendments to NFPA 13D.

[Item 3. Correlation of regulations for use of Stand-alone Pump and Tanks in residential fire sprinklers]

Amendments to NFPA 13D in Chapter 44

The OSFM is proposing the above the above regulation to correlate with California Residential Code proposed amendments to NFPA 13D.

[Item 4. Skylights in Wildland-Urban Interface Areas clarification and modifications.]

708A.2

708A.2.1

The OSFM is proposing the above modifications to provide clarity on the use of skylights in the high severity zones. Following the October 1991 Oakland Hills Fire, the California Building Standards Commission formed a Working Group to assist the OSFM in conducting fire research and developing regulatory measures to mitigate property damage from Wildland-Urban Interface fires. As a result, CBC, Chapter 7A-Wildland-Urban Interface Code was created. The provisions and standards contained within CBC Chapter 7A have been used successfully for many years in resisting wildland-urban interface fires. More particularly, the performance standard used for roofing materials and roof assemblies have been justified by the empirical data compiled and observations made, under wildfire conditions, of homes constructed in the wildland-urban interface since adoption of Chapter 7A. While overall performance with respect to the roof as a pathway to home loss was markedly improved, homes were lost to wildfires when ignition occurred within the attic area.

The two openings into the attic were attic vents and skylights. Driven by Chapter 7, the OSFM working with ASTM E05.14, Exterior Exposures Committee established the test protocols and apparatus for vents that would effectively limit flame and ember intrusion into the attic space. The inclusion of skylights under CBC Section 708A.2 Exterior Glazing, addresses the remaining pathway of flame and embers through the roof, and effectively completes the ignition resistant envelope of fire protection for homes in the wildland-urban interface. Including skylights in Chapter 7A provides the designers, owners, developers, building and fire officials, as well as subsequent homeowners, additional guidance in resisting wildland-urban interface fire exposure.

[Item 5. Garage doors in Wildland-Urban Interface Areas clarification and modifications.]

708A.4

The OSFM is proposing the above modifications in the Wildland-Urban Interface to provide some minimum level of protect at the garage door. The Wildfire Task Force determined that weather stripping is an economically feasible and reasonable improvement that can limit airflow across the pressure zones on either side of door assemblies. Limiting air flow by requiring weather stripping on all doors, including garage doors will help prevent burning embers from entering or lodging in open gaps between doors and their openings. Noncombustible building and door materials will make ignition less likely however, the Task Force's opinion is that even combustible weather stripping material will aid in resisting ember movement through the exterior door assembly that could start interior fires. Ignition resistance and minimum heat release rates were considered for weather stripping, however, the market availability of weather stripping products with improved fire performance were not researched or evaluated for this proposal. The Task Force believes that "closing the gaps" in the garage door and assembly will help reduce fire movement to building interiors.

[Item 6. Accessory Structures in Wildland-Urban Interface Areas Clarification and modifications.]

701A.3

701A.3.2

710A.1

710A.2

710A.3

710A.3.1

710A.3.2

710A.3.3

710A.4

The OSFM is proposing the above modifications to provide clarity in for accessory structures. The 2007 CBC provisions in section 704A.5.1 on ancillary buildings and structures led to inconsistent application and or misapplication of Chapter 7A requirements to different types of ancillary buildings and no direction on which provisions of Chapter 7A should be applied to other types of ancillary structures." The 2016 CBC Section 710A requirements for ancillary buildings apply variably to accessory buildings not covered by Section 701A.3, miscellaneous structures that are attached to the primary building, and detached accessory buildings or miscellaneous structures in ways that are difficult to enforce reasonably and consistently.

To help clarify the existing requirements the subgroup recommends two additions to Section 701A.3 to assist the user in correlating the application of requirements between Section 701A.3 and Section 710A, and two additional exceptions to Section 701A.2. There is no change in regulatory effect for the proposed modifications to either of the application provisions.

The recommended amendments to Section 710A.3 will clarify the specific locations where the requirements apply without changing the existing regulatory effect.

There exists the very real likelihood that any number of unpermitted accessory buildings,

miscellaneous structures, and combustible personal property items such as vehicles and patio furniture located near the building will “pose a significant exterior exposure hazard to applicable buildings during wildfires.” These are realistic hazards that are outside the scope and purpose of the California Building Standards and should be addressed by other hazard mitigation strategies such as public education, real estate requirements, or fire code enforcement.

[Item 7. Referenced Standards in Wildland-Urban Interface Areas clarification and modifications.]

703A.5.2.1

703A.7

704A.2

704A.3

704A.4

705A.2

705A.3

706A.2

706A.3

707A.3

707A.3.1

707A.3.2

707A.5

707A.6

707A.7

707A.8

707A.9

708A.2

708A.3

709A.3

709A.4

709A.4.1

709A.4.2

709A.4.5

Referenced Standard E84

The OSFM is proposing the modifications to provide an option to industry to use a national standard that is comparable to the SFM standards. The proposed regulations include the new referenced ASTM standards as well of the pass/fail criteria, while maintaining the SFM standards. It was identified by the wildfire Task Force that the OSFM standards, which were developed in the 1990s, have not been revised and updated in the intervening years. It was also identified that the ASTM E05 committee (on fire standards) had developed a number of standards that are updates and improvements on the OSFM standards and that they are standards that are being maintained and updated on a regular basis by a consensus standards committee. The subgroup on referenced standards was tasked with identifying the ASTM standards that were updates (and improvements) on the OSFM standards. A key further concept is that the ASTM standards do not include pass/fail criteria while the OSFM standards do contain them. Therefore, the task of the subgroup was to add wording equivalent to the OSFM criteria wherever the ASTM standards were being referenced.

The subgroup also noticed that no ASTM standard exists that is equivalent or similar to the California Referenced Standards Code (Title 24, Part 12), *Exterior Windows SFM Standard 12-7A-2* and that this OSFM Standard needs to be retained.

It was also noticed that, for exterior vents, no ember penetration test exists within the OSFM set of tests, but that ASTM has issued ASTM E2886 but that the ASTM E2886 test was added into the 2016 California Building Standards (CBC 7A / CRC R337), with pass/fail criteria that ensure no ember penetration or flame intrusion. However, small modifications are necessary in this section because it needs to be clear that ASTM E2886 cannot be “passed” but must be met with the appropriate criteria. Also, the alternates to California Referenced Standards Code *Ignition-Resistant Material SFM Standard 12-7A-5* need to be included.

A discussion was held as to whether the OSFM standards should be deleted and it was decided to recommend that they be retained because manufacturers with materials or products that have already been approved would not have to retest their products for the next code edition. It was also noticed that the ASTM standards are living documents that are likely to be revised and updated on a regular basis while the OSFM standards are likely to remain as is for the foreseeable future. Therefore, it was expected that the ASTM standards would have better likelihood of being maintained and updated for continued use in the code.

Because of the likely future utility of the ASTM standards, they are being proposed to be referenced first in each case, but without making any difference in options. It was made clear in the proposal that the code needs to accept passing either test (OSFM or ASTM with the conditions of acceptance shown) as equivalent for code purposes.

Comparison of SFM Tests published in the 2016 California Referenced Standards Code with ASTM Tests

- Exterior Wall Siding and Sheathing SFM Standard 12-7A-1: equivalent to ASTM E2707-2015 *Standard Test Method for Determining Fire Penetration of Exterior Wall Assemblies Using a Direct Flame Impingement Exposure Conditions of Acceptance*. If one of the three tests fails to meet the Conditions of Acceptance, three additional tests shall be run. All of the additional tests must meet the

Conditions of Acceptance:

1. Absence of flame penetration through the wall assembly at any time.
2. Absence of evidence of glowing combustion on the interior surface of the assembly at the end of the 70-min test.

- Exterior Windows SFM Standard 12-7A-2: No ASTM equivalent exists

Conditions of Acceptance:

1. Duration of direct flame exposure. To pass this test standard, the window and window assembly shall withstand 8 minutes of direct flame exposure with the absence of flame penetration through the window frame or pane, or structural failure of the window frame or pane. Absence of flame penetration through the wall assembly at any time.
2. Flame penetration or structural failure. Flame penetration or structural failure of the flame or pane anytime during the test constitutes failure of this test standard.

- Horizontal Projection Underside SFM Standard 12-7A-3 (under eave): equivalent to ASTM E2957-2015 *Standard Test Method for Resistance to Wildfire Penetration of Eaves, Soffits and Other Projections*.

Conditions of Acceptance:

If one of the three tests fails to meet the Conditions of Acceptance, three additional tests shall be run. All of the additional tests must meet the Conditions of Acceptance.

1. Absence of flame penetration of the eaves or horizontal projection assembly at any time.
2. Absence of structural failure of the eaves or horizontal projection subassembly at any time.
3. Absence of sustained combustion of any kind at the conclusion of the 40-min test.

- Decking SFM Standard 12-7A-4: contains 2 tests and one alternate.

Test Part A – Under Deck Flame Test: Equivalent to ASTM E2632/E2632M-2013e1 *Standard Test Method for Evaluating the Under-Deck Fire Test Response of Deck Materials*.

Test A Conditions of Acceptance.

If one of the three tests fails to meet the Conditions of Acceptance, three additional tests shall be run. All of the additional tests must meet the Conditions of Acceptance.

1. Effective net peak heat release rate of less than or equal to 25 kW/ft² (269 kW/m²)
2. Absence of sustained flaming or glowing combustion of any kind at the conclusion of the 40-min observation period.
3. Absence of falling particles that are still burning when reaching the burner or floor.

Test Part B – Burning Brand Exposure Test: Equivalent to ASTM E2726/E2726M-2012a *Standard Test Method for Evaluating the Fire-Test-Response of Deck Structures to Burning Brands*.

Test B Conditions of Acceptance:

If one of the three tests fails to meet the Conditions of Acceptance, three additional tests shall be run. All of the additional tests must meet the Conditions of Acceptance.

1. Absence of sustained flaming or glowing combustion of any kind at the conclusion of the 40-min observation period.
2. Absence of falling particles that are still burning when reaching the burner or floor.

Alternate Method A (12-7A-4A) – Under Deck Flame Test: Equivalent to ASTM E2632/E2632M-2013e1 *Standard Test Method for Evaluating the Under-Deck Fire Test Response of Deck Materials*.

Alternate Method A Condition of Acceptance:

If one of the three tests fails to meet the Condition of Acceptance, three additional tests shall be run. All of the additional tests must meet the Condition of Acceptance.

1. Peak heat release rate of less than or equal to 25 kW/ft² (269 kW/m²).

- Ignition-Resistant Material SFM Standard 12-7A-5: equivalent to ASTM E84-2015b *Standard Test Method for Surface Burning Characteristics of Building Materials*, when tested in accordance with the test procedures and when the test is continued for an additional 20 minute period, for an “extended” 30 minute total period, with the following conditions of acceptance:

Conditions of Acceptance:

1. Material shall exhibit a flame spread index not exceeding 25 and shall show no evidence of progressive combustion following the extended 30-minute test.
 2. Material shall exhibit a flame front that does not progress more than 10-1/2 feet (3200 mm) beyond the centerline of the burner at any time during the extended 30-minute test.
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1. A decision was made to add the equivalent ASTM standards to the California Referenced Standards Code SFM Standards when they exist. ASTM standards exist covering most (but not all) the SFM Standards.
 2. ASTM E05 (fire) standards typically have no pass/fail criteria but the SFM Standards do and that needs to be added. The criteria need to be in Chapter 7A and not in chapter 35 because they are not contained within the ASTM standards.
 3. Retaining the SFM Standards is important because there are materials/products that have received approval based on them and they should not need to be retested with the new code.
 4. In future it is likely that ASTM standards may be modified and updated and, therefore, it is likely that, in future editions the SFM Standards may be replaced (because they do not change). Therefore, the ASTM standards have been placed as the first option with the SFM Standards as the second option.
 5. Passing either test is considered equivalent for the code in the proposed text.
 6. California Referenced Standards Code SFM Standard 12-7-A5 is equivalent to the "extended ASTM E84 or UL 723" as a requirement for "ignition resistant materials". However, neither ASTM E84 nor UL 723 describe the "extended" protocol for the additional 20 minutes (for a total of 30 minutes) nor pass/fail criteria and those have been added. The SFM Standard has been retained as an alternative option. Moreover, neither ASTM E84 nor UL 723 describes any option for "additional 20 minute" testing and so this must be described in the code, just like it is in the IBC.
 7. ASTM E2707 is very similar to (and based on) California Referenced Standards Code SFM Standard 12-7-A1. However, ASTM E2707 does not have pass/fail criteria and those have been added. The CA OSFM standard has been retained as an alternative option.
 8. ASTM E2957 is very similar to (and based on) California Referenced Standards Code SFM Standard 12-7-A3. However, ASTM E2957 does not have pass/fail criteria and those have been added. The SFM Standard has been retained as an alternative option.
 9. No SFM Standard test exists for exterior vents but ASTM E2886 covers that issue. Therefore, this test was added to the CBC code in the 2016 edition. However, ASTM E2886 does not have pass/fail criteria and those have been added, based on no flame intrusion and no ember penetration. A small change is proposed for this section because ASTM E2886 itself has no pass-fail requirements and cannot be "passed". Also, the alternates to California Referenced Standards Code SFM Standard 12-7-A-5 needed to be included
 10. California Referenced Standards Code SFM Standard 12-7-A4 contains two tests and they have been issued separately as ASTM E2632 and ASTM E2726. However, neither ASTM E2632 nor ASTM E2726 have pass/fail criteria and those have been added. The SFM Standard has been retained as an alternative option.
 11. ASTM E2632 is very similar to (and based on) California Referenced Standards Code SFM Standard 12-7-A4A (and a portion of SFM Standard 12-7-A4). However, ASTM E2632 does not have pass/fail criteria and those have been added. The SFM Standard

- has been retained as an alternative option.
12. CBC Section 709A.3 on decking surface, item 1 had duplicate requirements for California Referenced Standards Code SFM Standard 12-7-A4 and California Referenced Standards Code SFM Standard 12-7-A5 and this has been separated into two subparagraphs, with the corresponding pass fail criteria. The SFM Standards have been retained as an alternative option.
 13. California Referenced Standards Code SFM Standard 12-7-A2 does not have an ASTM equivalent and has been retained without an alternative.

[Item 8. Editorial modifications of regulations for vegetation management in Wildland-Urban Interface Areas.]

701A.5

The OSFM is proposing the editorial change to provide clarity in the regulations. All of the changes are intended simply to eliminate non-mandatory language (the term “may”) without altering the intended meaning. Non-mandatory language has the potential to create potential lack of clarity and/or of enforceability. Note, however that the proposed wording for the change in this section incorporates also the other changes recommended for these sections.

[Item 9. Automatic fire sprinklers in elevator machine area clarification]

3005.4.1

Amendments to NFPA 13 in Chapter 80

The OSFM is proposing the changes to provide clarity and remove conflict in the regulations. The current amendments allow the elimination of fire sprinklers in the elevator machine room where all the requirements of the exception are met, including the elevator machine room being fire-resistive construction and separation, smoke and heat detection and approved signage. The elimination of sprinklers in the elevator machine room addressed the issues with water damaging the elevator equipment during a fire and creating a hazard for the fire service. The shut-trip is not required when there is not automatic sprinkler covering the elevator equipment. This was the intent of the California amendment from the High-Rise Phase II Workgroup. There was some confusion on where the smoke detection was required. Some jurisdictions were requiring smoke detection in all the area listed in the section: “*in the elevator hoistway, elevator machine room, elevator machinery spaces, elevator control spaces, or elevator control rooms*”. The some cases the elevator hoistway is prohibited by NFPA 72 to have smoke detection, but was being installed due to this section in the California Fire Code. The addition of the smoke detection in the hoistway then triggers the requirement for access that complies to the access for confined spaces. It is not the intent of the committee to require smoke detection in other areas then the area where the fire sprinklers was removed using this code section.

This misapplication of the code section can cost the industry significant construction and maintenance costs. This code change will provide better guidance to the Authorities Having

Jurisdiction and industry.

NFPA 13, 2016 edition (section 8.15.5.3) has a similar provision to remove the fire sprinkler in the elevator machine room. The new NFPA 13 section is similar to the CFC section 3005.4.1 but it does create some code conflict. NFPA prohibits the use of the section with hydraulic elevator while the CFC requires signage. The work group also asked that this section be clarified to state if it applied to hydraulic elevators. The CFC takes precedence over the standards, but the standard should be amended to create consistency. This would meet the original intent of the High-rise committee.

[Item 10. High-rise fire alarm circuits clarification and modifications.]

907.6.1.1

403.2.1.1

The OSFM is proposing the modifications to provide an alternate means of providing survivability in the high-rise fire alarm circuits. The California amendment for the requirement of metallic raceways protection is to ensure compliance with the survivability requirements. The Office of the State Fire Marshal was asked to consider the addition of requirements that address concrete encased raceways as an option for industry to satisfy the survivability requirements for fire alarms in high rise buildings. The committee considered the request and compared the requirements for the survivability protection required for wiring circuits for smoke control systems. The 2016 California Fire Code section 909.20.4.3.1 allows wiring to be encased with not less than 2 inches of concrete cover. The proposed amendment creates a consistent standard for survivability utilizing a concrete barrier.

Industry requested a way to use non-metallic raceways encased in concrete instead of metallic raceways. The High-rise committee created this amendment to provide an option for compliance for industry. This may provide a cost saving in the construction costs allowing PVC raceways inside of concrete components of the structure.

[Item 11. Editorial modifications of regulations for the term Primary Structural Frame.]

403.2.1.1

TABLE 601

The OSFM is proposing the editorial change to match the current terminology used in the International Building Code in the California amendments. The 2009 International Building Code added the definition of "Primary Structural Frame". The California amendments CBC 403.2.1.1 and the footnotes in CBC Table 601 are still using the term "Structural Frame" which is not defined. This is an editorial change to update to the current language and definition used in the model code. The committee agreed that the definition of Primary Structural Frame meet the intent of the California Building Code.

[Item 12. Definitions for detention facilities addition and modifications]

Section 202

The OSFM is proposing the new definitions from the recommendations from the Occupancy Codes Task Force. The I-3 Occupancy Codes Task Force reviewed current definitions and determined that it would be appropriate to provide greater guidance for clarity of code requirements by adding these definitions based on code proposal within this report and clarify use conditions already in practiced throughout the state. The proposed definitions are to provide additional clarity and uniformity to the terms used with applicable CCRs and Building code already established.

The OSFM is proposing modification to the definition of “tier” for clarity. The OSFM definition specifically notes that a tier shall not be considered a story or a mezzanine, but the 2013 code is silent on how much of the floor area can be taken up by a tier. In determining the appropriate area of a tier the code lacked guidance. The closest similar construction is a mezzanine and a mezzanine is limited to one-third of the floor area of the space. Thus, the SFM determined that a tier could not exceed one-third of the floor area of the space. The committee reviewed this issue and through extensive discussion and consensus, and determined that where the building is constructed of Type I construction, and the floor is constructed of a 2-hour fire rating, in accordance with Table 601, it would be acceptable to construct a tier of up to two-thirds of the floor area. The tier is an essential part of housing units in the form of a pod. Within Type I construction, a tier up to two-thirds of the floor area, would not present a higher threat than a tier of one-third floor area for other types of construction. The greater limitation is the security aspects of being to provide line of sight observation. However, security aspects are not a fire and life safety consideration, thus the option of constructing the tier up to two-thirds of the floor area. The added language to the definition of cell tiers clarifies this issue and a statement in the commentary further clarifies that floor penetrations in the tier do not need to be protected.

The OSFM is proposing modification to the definition of “housing unit” for clarity. The I-3 Occupancy Work Group reviewed the definition for “housing unit” and proposed to change the definition to clarify use conditions already in practice throughout the state. The current definition does not adequately define the specific use of a “housing unit.”

[Item 13. I occupancy description clarification and modifications.]

CBC 308.1

The OSFM is proposing a modification to the State amendment permitting restraint in Group I-3 solely. Requirements pertaining to Group I-2 Occupancies regulate hospitals, nursing homes and psychiatric hospitals housing patients. Requirements pertaining to Group I-3 Occupancies regulate jails, prisons, reformatories and other buildings where the personal liberties of persons are restrained. The character of restraint in facilities classified as Group I-3 is incarceration, imprisonment, detention or criminal custody of prisoners and inmates. Because the requirements contained in the California Building Code do not address portions or areas of Group I-2 Occupancies where both nonambulatory and restrained patients are

housed, it is unclear whether the requirements for Group I-2 or Group I-3 occupancies apply to buildings or areas housing both nonambulatory and restrained patients. This has resulted in the inconsistent application of California Building Code requirements in these types of facilities.

Seismic compliance laws are resulting in many hospitals rebuilding their facilities and removing Acute Care Services from portions of their campuses. These buildings are otherwise serviceable and capable of providing other types of healthcare. This, coupled with an ever-increasing need for mental health care in California, makes these areas well suited for repurposing to psychiatric or mental health care. Group I-2 occupancies currently provide care for mental health patients under conditions of restraint. Most code writing agencies, including ICC, NFPA and the AIA Facility Guidelines Institute, acknowledge and permit the locking of areas of Group I-2 occupancies that provide care for certain patients where it is necessary to lock doors and bar windows to protect building inhabitants, including patients with dementia, mental health care needs, infant care, pediatric care, or patients under court detention order requiring medical treatment in a health care facility.

Historically California has held that persons who are 'restrained' (by definition) can only be housed in I-3 occupancies. These I-3 code provisions regulate facilities housing persons who are incarcerated or otherwise held in a condition of detention and do not contain many of the healthcare-related provisions required for nonambulatory patients receiving medical or psychiatric care. These proposed revisions to the California Building Code acknowledge and allow for the holding of psychiatric or mental health patients under conditions of restraint in a Group I-2 hospital setting while providing the requisite level of safety and fire protection currently enjoyed in detention facilities.

[Item 14. I-2 occupancies with restraint clarification and modifications.]

407.1.2

Table 504.4

The OSFM is proposing the modifications to I-2 occupancies that practice restraint. The I-3 Occupancy Codes Task Force are proposing revisions to the California Building Code to acknowledge and allow for the holding of psychiatric or mental health patients under conditions of restraint in a Group I-2 hospital setting while providing the requisite level of safety and fire protection currently enjoyed in detention facilities. This amendment limits the height and area of Group I-2 occupancies where patients are restrained to the same current limitations as Group I-3.

[Item 15. Clarification and coordination with item 16 for the table for I-2 with restraint.]

Table 803.11

The OSFM is proposing to modify section Table 803.11 to afford the same degree of protection for interior wall and ceiling finishes currently applicable to Group I-3 occupancies in I-2 facilities with detention. The I-3 code provisions regulate facilities housing persons who are

incarcerated or otherwise held in a condition of detention and are incapable of taking self-preservation steps unassisted due to the security features of the buildings. Since patients in Group I-2 occupancies are similarly restrained, the flame spread and smoke development requirements for interior wall floor and ceiling finishes will be comparable.

[Item 16. Modifications and coordination with item 16 for I-2 with restraint.]

804.4.1

804.4.2

804.4.3

The OSFM is proposing to modify section 804.4.1, 804.4.2 and 804.4.3 to afford the same degree of protection for wall floor and ceiling finishes currently applicable to Group I-3 occupancies. The I-3 code provisions regulate facilities housing persons who are incarcerated or otherwise held in a condition of detention and are incapable of taking self-preservation steps unassisted due to the security features of the buildings. Since patients in Group I-2 occupancies are similarly restrained, the flame spread and smoke development requirements for interior wall floor and ceiling finishes will be comparable.

[Item 17. Adoption of model code with modifications for controlled egress I-2 occupancies.]

1010.1.9.6

The OSFM is proposing to adopt International Building Code Section 1010.1.9.6 with State amendments. This section of model code was not adopted in the previous code cycles since restraint was only permitted in Group I-3 occupancies and the provisions for locking egress doors in Group I-2 occupancies was not permitted. These model code provisions have been in place in other states and have been coordinated and are consistent with the locking provisions permitted in NFPA 101 *Life Safety Code*. These locking provisions exceed the level of safety found in places of detention and are consistent with level of safety for psychiatric facilities in other parts of the nation.

Exception 5 is not being adopted as this is not a building standard and emergency procedures are already required in the California Code of Regulations, Titles 19 and 22.

[Item 18. Intervening spaces in I-2 occupancies with detention clarification and modifications.]

1016.2

The OSFM at the recommendation of the I-3 Occupancy Codes Task Force, is proposing to amend the State amendment in California Building Code Section 1016.2, Exception 6, to clarify that the means of egress may pass through a room that can be locked to prevent egress in areas of Group I-2 occupancies where patients are restrained. This is consistent

with the provisions for Group I-3 occupancies and is required in locations where security locks are provided on smoke compartment doors.

[Item 19. I-3 occupancies healthcare provisions clarification and modifications.]

308.5

The OSFM is proposing modifications in the description of on I-3 to include healthcare facilities in detention facilities. The I-3 Occupancy Codes Task Force has reviewed the current regulations pertaining to healthcare facilities located in places of detention. Within correctional facilities there is an ever-increasing need for medical care, either as a complete medical care facility, such as the CDCR Stockton Central Health Care Facility or the CDCR Correctional Medical Facility (CMF) in Vacaville, or as a distinct part of a State Prison or County Jail. As the average age of the populace of prisons and jails continues to climb and the levels of acuity of the patients deteriorate, the need for more traditional medical facilities that provide similar levels of patient safety and protection within these places of detention is becoming critical.

This proposal is intended to recognize the varying levels of acuity of prisoners who are patients and incorporate the specific healthcare provisions of hospitals, skilled nursing facilities and mental health facilities in correctional settings.

[Item 20. I-3 addition of Condition 9 for healthcare.]

308.5.6

The OSFM is proposing the addition of condition 9 in I-3 occupancies for healthcare. The I-3 Occupancy Codes Task Force has reviewed the current regulations pertaining to healthcare facilities located in places of detention. Within correctional facilities there is an ever-increasing need for medical care, either as a complete medical care facility, such as the CDCR Stockton Central Health Care Facility or the CDCR Correctional Medical Facility (CMF) in Vacaville, or as a distinct part of a State Prison or County Jail. As the average age of the populace of prisons and jails continues to climb and the levels of acuity of the patients deteriorate, the need for more traditional medical facilities that provide similar levels of patient safety and protection within these places of detention is becoming critical.

This proposal is intended to recognize the varying levels of acuity of prisoners who are patients and incorporate the specific healthcare provisions of hospitals, skilled nursing facilities and mental health facilities in correctional settings.

[Item 21. Intervening spaces in I-3 occupancies clarification and modifications.]

408.1.2.2

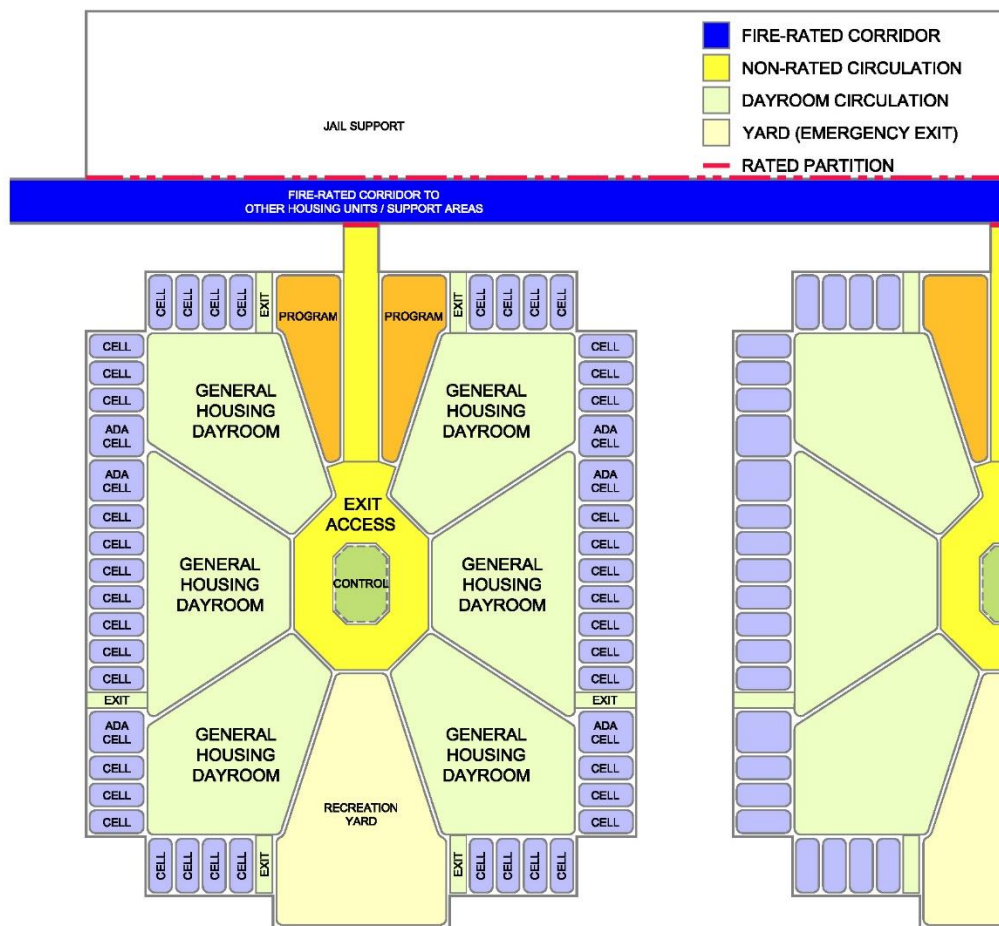
1020.1

The OSFM is proposing the modifications to intervening spaces. The 2013 CBC section 408.1.2.2 Intervening Spaces attempted to update this code section to reflect the current construction methods and to clarify where non-rated corridors were allowed based on the operational and security construction requirements of detention facilities. Previous code cycles allowed partitions of open bars, perforated metal, grilles, or similar construction; however glazed construction is now used as a means to prevent officers from being sprayed by bodily fluids. The 2013 code cycle modifications, to address this issue, were difficult for designers to understand and for code officials to enforce. The new language better clarifies where non-rated corridors are essential due to the limitations of detention construction and the overriding need to provide for maximum visibility from custody stations. Graphic figures, included below, further communicate the intent of these exceptions. The new language maintains fire and life safety which is at least as restrictive as previous code cycles allowed while considering the evolution of jail construction away from open barred partitions. The addition of exception 7 here is necessary to clarify special consideration for corridors in detention facilities with intervening spaces.

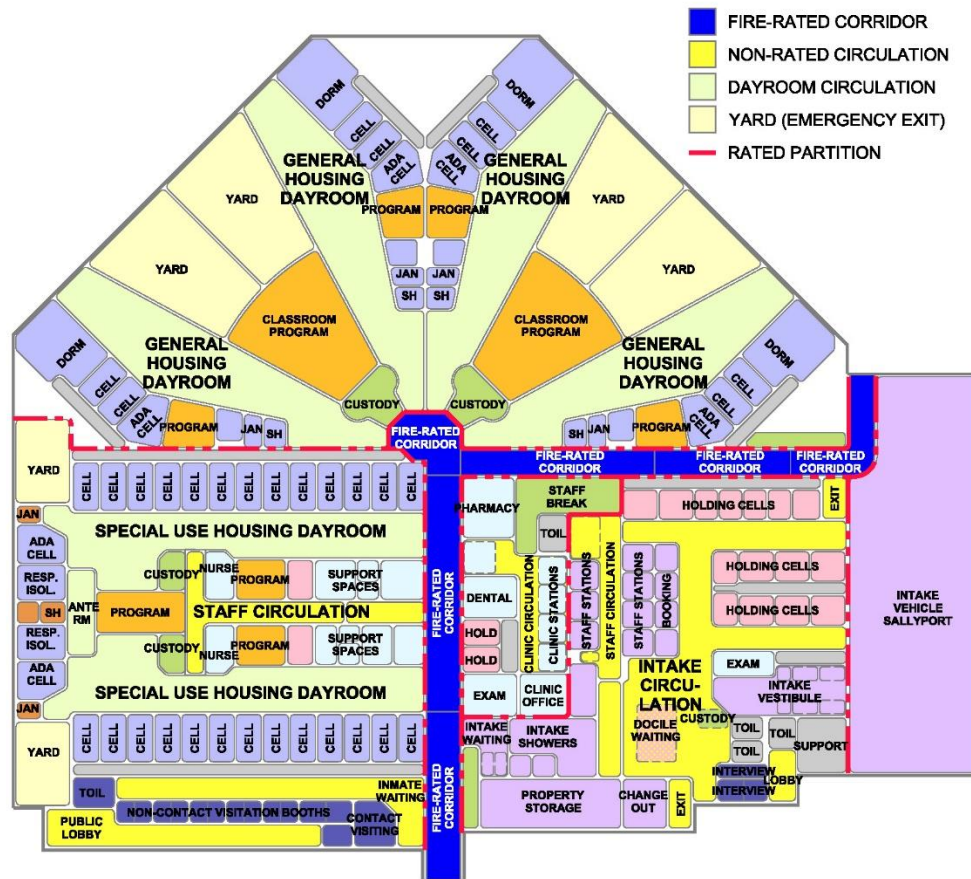
The proposed expressed terms are show with diagrams for clarification of the intent.

CBC 408.1.2.2 Intervening spaces. Common rooms and spaces within Group I-3 occupancies can be considered an intervening space in accordance with Section 1014.2, and not considered a corridor, when they meet any of the following:

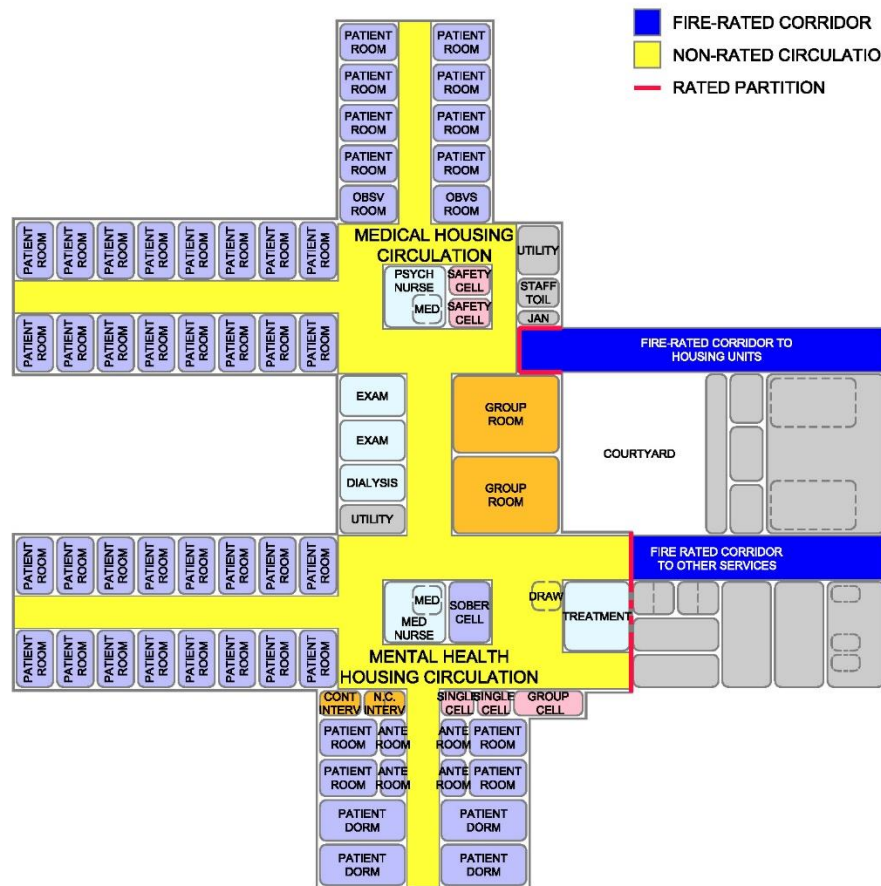
1. Within prisons and local detention facilities of Type I Construction, ~~The inmate and/or staff movement is within cell complexes, medical housing wings and mental health housing wings of Type I construction.~~ the exit access within a housing unit, may be a non-rated corridor provided the required exit occupant load from any dayroom does not exceed 64 persons.



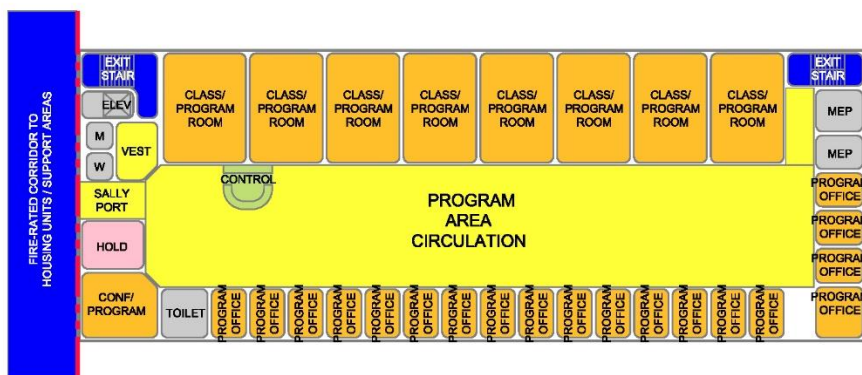
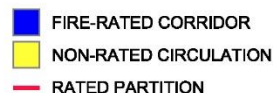
2. Within prison, jails, and courthouses: Area within any temporary holding areas of noncombustible construction and an occupant load less than 100.



3. Within prisons and local detention facilities, Areas within secure mental health treatment facilities correctional medical or mental health housing suites, of noncombustible construction and an occupant load less than 100.



4. Within prisons and local detention facilities: detention program areas of noncombustible construction and an occupant load less than 100.



[Item 22. Security doors in I-3 occupancies clarification and modifications.]

408.1.3

The OSFM is proposing the modification to provide clarity. This code section simply clarifies where security doors (which cannot meet corridor requirements) are allowed. In reality, it will not change how these buildings are designed, or how safe they are. It simply streamlines the eventual approval of detention designs which cannot meet strict corridor requirements due to the nature of security needs.

These doors cannot meet corridor requirements because door jambs and heads exceed 4" for which UL designs are tested. Doors have cuff ports and food slots which cannot meet smoke tight requirements of corridor doors. Doors do not have smoke seals because in a detention environment they can be vandalized or used to fashion weapons. Doors may not have closers because in a detention environment they can be vandalized and used to fashion weapons and/or doors with closers adversely affect operations which includes the escorting of inmates. Security hardware is not smoke tight. Speaker ports are not smoke tight. Security glazing may not meet the testing requirements of Section 716.

The corridor walls these doors are placed in are otherwise required to meet fire partition requirements per Section 708. However, the recommended changes would preclude multiple Alternate Means of Protection documents from having to be written and approved by the OSFM office to address the limitations of detention hardware and construction. By requiring that they be constructed per these standards, but not tested or listed, allows the manufacturer to prepare a letter stating as much, and simple approval by the Authority Having Jurisdiction.

[Item 23. Healthcare in Chapter 4 clarification and modifications.]

408.2.1

The OSFM is proposing to modify section 408.2.1 to identify the specific sections of Group I-2 occupancy requirements that need to be incorporated into the design of a healthcare facility located in a place of detention. This proposal also corrects a reference to 407.10, which does not exist.

With the specific Condition 9 designation for health care in the detention environment, it resolves the conflicts of the I-2 and I-3 occupancies, which some AHJ's termed as "overlays" without clear definitions of overlays. This revision provides for this use to still be an I-3 occupancy, because persons are restrained for detention or correctional purposes but recognizes the specific operational needs for medical care while maintaining the same levels of security and fire and life safety as normal I-3 occupancies.

[Item 24. Custody stations in I-3 occupancies clarification and modifications.]

408.3.12

The OSFM is proposing the modification to provide clarity in the regulations. Custody stations are a common occurrence in existing and new detention facilities. The current code has no provision for custody station within corridors. The above new section recognizes this need and use. The committee has determined that this new language provides for appropriate guidance for the use of a custody station while maintaining the integrity of the rating of the corridor.

[Item 25. Smoke control in I-3 occupancies clarification and modifications.]

408.9.1

The OSFM is proposing the modifications for smoke control in I-3 occupancies. The I-3 Occupancy Codes Task Force smoke control sub-committee reviewed the current requirements and determined that the existing exception 1 needed clarification. The subcommittee's goal was to clarify exception 1 and expand the exceptions to the smoke control requirement. New exceptions 3 and 4 address courthouses in particular where

occupants can be expected to have limited combustible materials in their possession and are not sleeping overnight. Detainees in courthouse holding are there temporarily and will not accumulate combustibles as they might in cells of jails and prisons. Exception 4 is for courtroom holding less than 20 while exception 3 is for courtroom holding over 20, or the central holding in a courthouse. If exception 4 applies, the additional requirements of exception 3 do not apply. The egress time frame of 5 minutes was chosen based on the conservative average of a number of tenability analyses done over the last 4 years in single story facilities of limited area.

New exception 5 provides another design option for jails and prisons where a direct exterior exit is not available. Instead it applies where occupants can be moved to an adjacent smoke compartment including dayrooms, large program spaces or corridors. The 6-minute egress time frame reflects larger dayrooms of 1 or 2 stories. The pressurization smoke control is expected to maintain the area of fire origin at a negative 0.05-inch water column pressure compared to other unaffected housing areas and the smoke compartment to which occupants are moved. This might be accomplished by an exhaust system in the area of origin or positive pressure in the other areas.

Exceptions 1, 3, 4 and 5 are prescriptive and should not require a tenability analysis to determine the smoke layer descent. Exceptions 1, 3 and 5 may require an analysis of the time required for egress, unless the cells can and will be unlocked simultaneously.

[Item 26. Accessory occupancies in I-3 occupancies clarification and modifications.]

508.2.4

508.3.3

The OSFM is proposing the modification to provide clarity in the regulations. In an effort to correct confusion in application of the code, the I-3 Occupancy Codes Task Force reviewed the provisions for accessory occupancies and unseparated occupancies. Prior to the adoption of the International Codes, accessory uses such as offices and similar areas were treated as a portion of the main occupancy. A nursing supervisor's office in a nursing unit or a guard station in holding area of a courthouse was considered part of the unit and no fire-resistance-rated separation was required. However, California Building Code, Sections 508.1, 508.2.2 and 508.3.1 now requires "each portion of a building to be individually classified in accordance with Section 302.1". When no provisions are made for allowing these related uses to be unseparated from the major use, 2-hour fire barriers are required for individual offices and similar uses. These amendments permit accessory assemblies, office spaces, sleep rooms, and storage areas with an aggregate area of less than 10% of the floor area of a story to be unseparated from Group I-2, I-2.1 and I-3 occupancies. It also allows these uses to be considered unseparated occupancies in Group I-3 detention facilities of Type I construction, but removes this provision for Group I-2 and I-2.1 occupancies as this was never intended to be allowed. Incidental use areas are not affected where regulated by Section 509.

Group A was included in the exception for I-3, but not for I-2 and I-2.1, since dining areas in jails and prisons exclusively serve the inmates incarcerated in the facility, but dining areas in hospitals

and skilled nursing facilities serve families, visitors and other members of the public, many of which may not be familiar with the means of egress.

[Item 27. Healthcare areas in I-3 occupancies clarification and modifications.]

907.2.6.3.3.1

The OSFM is proposing to a new amendment Section 907.2.6.3.3.1 to assure that the fire alarm systems in healthcare facilities located in places of detention are designed to the more stringent requirements of an I-2 occupancy, as the patients within the healthcare facility are bedridden or nonambulatory and the level of fire protection in the facilities needs be commensurate with the requirements for Group I-2 occupancies in order to notify staff early to permit them to relocate patients to adjacent smoke compartments rather than to the outdoors.

[Item 28. Guard on observation towers in I-3 at detention facilities Clarification and modifications.]

1015.2

The OSFM is proposing the modification to provide clarity in the regulations intent. CBC Section 1015.1 describes and identifies the need for protection of permanent hazards and does not recognize nor identify the temporary nature of the hazardous condition at the guard towers nor the special requirement, training, and procedures for this specific use. The floor hatch of CDCR's guard towers are designed to function as a walking surface so that when closed there is unobstructed circulation for the guard tower officer for 360 degree viewing from the tower.

Issue Overview: The core work process of officers manning the guard towers at CDCR's facilities includes the requirement to move promptly and freely with loaded firearms in all directions around the perimeter of the cab without obstacles in order to observe and prevent inmate or any unauthorized breach of the prison's secure perimeter. CDCR's established procedures for the operation and use of the guard towers provides for constant attendance of the hatch opening when open. Also, for security reasons, the procedure requires the immediate locking of the hatch once an officer has entered the tower cab. Floor hatch operation is infrequent and limited to weapon and ammunition delivery, shift change and access for maintenance.

Approval of alternate means of compliance by Office of the State Fire Marshal; concurrence by Cal/OSHA.

[Item 29. Area of refuge in I-3 occupancies modifications.]

The OSFM at the recommendation of the I-3 Occupancy Codes Task Force is proposing a modification to the State amendments Section 1028.5 regarding safe dispersal areas exception 1. It was determined custody staff directed inmates to sit or lie down in safe dispersal area(s) during emergencies. The 5 Square feet per occupant will not provide adequate space. In effort to provide consistency with 2013 CBC Section 1004.2, table 1004.1.2 and 11B-305.3., it was agreed 7 square feet per occupant provides a greater degree of reasonable accommodation.

[Item 30. Correlation of Educational occupancy editorial changes to removal duplication and provide clarity

903.2.3
903.2.11.6
903.2.19
903.2.19.1
903.2.20
907.2.3.7
907.2.3.8
907.2.3.9
907.2.3.9.2
907.2.3.10
907.2.29
907.2.29.1
907.2.29.2
907.2.29.1
907.2.29.4
907.6.6.2
907.6.6.3

The OSFM is proposing the above the above regulations recommended to correlate with the proposal in the California Fire Code.

[Item 31. Educational occupancy editorial changes to provide clarity.]

452.1.4

The OSFM is proposing the above the above regulations recommended from the E Occupancy Task Force (2016). There is some confusion on the restriction of CBC 452.1.4, which does not allow rooms used by kindergarten through second grade above or below the first floor. The Task Force is recommending the addition of “and other spaces” to the section. This will clarify the intent of restricting the location of lunch rooms and other areas besides the classrooms. This will provide clarity with no regulatory change.

[Item 32. Educational occupancy modification to corridors.]

Table 1020.1

The OSFM is proposing the above the above regulations to adopt the model code text for the corridor rating in E occupancies with fire sprinklers. This is from the recommendation of the E Occupancy Task Force (2016).

The Rating of Corridors with a Fire Sprinkler System

The Task Force considered the proposal presented by Kurt Cooknick. The proposal was to eliminate the California amendment to the table in CBC 1020.1 and use the model code text. The amendment requires a one-hour corridor in an E occupancy with fire sprinklers. The model code of ICC allows a non-rated corridor when it has fire sprinklers. The proponent showed the changes in classroom design and the integration of collaborative learning areas with more open space.

The Task Force discussed the proposal and presented no concerns on the change. The Task Force unanimously decided to recommend this code change. This change will allow more design options for school construction and may lower the cost of construction.

[Item 33. Fire protection of Pet Boarding Facilities.]

441

441.1

State mandated change. Senate Bill 945 requires the fire protection of Pet Boarding Facilities. The requirements for fire protection in the Senate Bill are the same as the requirements for Pet Kennels. This proposal expands the scope of section 441 to include pet boarding facilities as mandated.

[Item 34. Definition of Approved - editorial change.]

202 Definitions APPROVED

The definition of Approved was changed in the model code. The term “authority having jurisdiction” was removed. This has brought the question of the fire department’s authority to enforce the CBC. There is no change in the authority. The 2016 CBC defines the Building Official as, “The officer or other designated authority charged with the administration and enforcement of this code, or duly authorized representative.”

The statutes provide the authority and responsibility for the enforcement of the building standards relating to fire and panic to the State Fire Marshal, the local Fire Chiefs and their authorized representatives. There are several statutes that clearly provide this authority. Here is one example:

Health & Safety Code 13145. The State Fire Marshal, the chief of any city, county, or city and county fire department or district providing fire protection services, or a Designated Campus Fire Marshal, and their authorized representatives, shall enforce in their respective areas building standards relating to fire and panic safety adopted by the State Fire Marshal and published in the California Building Standards Code

and other regulations that have been formally adopted by the State Fire Marshal for the prevention of fire or for the protection of life and property against fire or panic.

This was a change to provide clarity of the regulations for California.

[Item 35. Gas Detection Systems- Correlation with the California Fire Code]

202

406.8.5

406.8.5.1

406.8.5.2

415.5.3

415.5.4

415.11.7

415.11.7.1

415.11.7.1.1

415.11.7.1.2

415.11.7.1.3

415.11.7.1.4

415.11.7.2

415.11.9.3

421.6

421.6.1

421.6.2

908.1

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916.10

916.11

2702.2.1

2702.2.6

2702.2.1

2702.2.6

Rationale: The OSFM is proposing the above modifications to correlate with proposal for the California Fire Code. The regulations are based on the proposal (F75-16) approved for the 2018 International Fire Code that incorporates the use of gas detection in power storage systems and plant processing and extraction. This code proposal has been heard by the ICC Fire Code Committee at the ICC Code Hearings held April, 2016 in Louisville, KY. Final Action of these modifications was approved in November 2016, in Kansas City, MO. The SFM is bringing this proposal to correlate with the adoption of regulations for Plant Processing and Extraction and the regulations for Power Storage Systems.

[Item 36. Editorial Correction]

1029.3.1

Rationale: The OSFM is proposing the above modifications to provide clarity in the code. This is editorial with no regulatory change.

[Item 37. ICC Errata Correction]

Table 602 Table 705.8

Rationale: The OSFM is proposing the above modifications to provide clarity in the code. The changes are errata from the ICC model code. They were found after the 1st publication and ICC made the above changes to correct the accidental elimination of the footnotes. The proposal will correlate with the 2nd or later publications of the International Building Code.

TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENTS:

The SFM did not rely on any technical, theoretical, and empirical study, report, or similar documents outside of those contained in this rulemaking in proposing that CBSC adopt said model code as a reference standard for the placement of existing SFM regulatory amendments for the California Building Standards Codes.

STATEMENT OF JUSTIFICATION FOR PRESCRIPTIVE STANDARDS:

The SFM believes that the amendments to the model code any additional building standards proposed are offered in typically both a prescriptive and performance base. The nature and format of the model code adopted by reference afford for both methods, the following is a general overview of the model codes proposed to be adopted by reference as well as state modifications:

This comprehensive building code establishes minimum regulations for fire prevention and fire protection systems using prescriptive and performance-related provisions. It is founded on broad-based principles that make possible the use of new materials and new system designs.

This code is founded on principles intended to establish provisions consistent with the scope of a building and fire code that adequately protects public health, safety and welfare; provisions that do not unnecessarily increase construction costs; provisions that do not restrict the use of new materials, products or methods of

construction; and provisions that do not give preferential treatment to particular types or classes of materials, products or methods of construction.

The International Building, Residential and Fire Code provisions provide many benefits, among which is the model code development process that offers an international forum for building and fire safety professionals to discuss performance and prescriptive code requirements. This forum provides an excellent arena to debate proposed revisions. This model code also encourages international consistency in the application of provisions.

CONSIDERATION OF REASONABLE ALTERNATIVES

The SFM has determined that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective and less burdensome to affected private persons than the proposed adoption by reference with SFM amendments. Therefore, there are no alternatives available to the SFM regarding the proposed adoption of this code.

REASONABLE ALTERNATIVES THE AGENCY HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS.

The SFM has determined that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective and less burdensome to affected private persons than the proposed adoption by reference with SFM amendments. Therefore, there are no alternatives available to the SFM regarding the proposed adoption of this code.

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE IMPACT ON BUSINESS.

The SFM has made a determination that this proposed action will not have a significant adverse economic impact on business. Health and Safety Code Section 18928 requires the SFM, when proposing the adoption of a model code, national standard, or specification shall reference the most recent edition of the applicable model code, national standard, or specification. Therefore, there are no other facts, evidence, documents, testimony, or other evidence on which the SFM relies to support this rulemaking.

ASSESSMENT OF EFFECT OF REGULATIONS UPON JOBS AND BUSINESS EXPANSION, ELIMINATION OR CREATION

The Office of the State Fire Marshal has assessed whether or not and to what extent this proposal will affect the following:

- ☒ The creation or elimination of jobs within the State of California.

These regulations will not affect the creation, or cause the elimination, of jobs within the State of California.

- ☒ The creation of new businesses or the elimination of existing businesses within the State of California.

These regulations will not affect the creation or the elimination of existing business within the State of California.

- ☒ The expansion of businesses currently doing business with the State of California.

These regulations will not affect the expansion of businesses currently doing business within the State of California.

- ☒ The benefits of the regulation to the health and welfare of California residents, worker safety, and the state's environment.

These regulations will update and improve minimum existing building standards, which will provide increased protection of public health and safety, worker safety and the environment.

ESTIMATED COST OF COMPLIANCE, ESTIMATED POTENTIAL BENEFITS, AND RELATED ASSUMPTIONS USED FOR BUILDING STANDARDS

The OSFM does not anticipate a cost of compliance with most of the proposed building standards, however, clear benefits are included in the purpose and rationale and further noted below. Items proposed in this rulemaking provide the following:

- Item 1 is a proposal to adopt the model code early. No cost of compliance associated, benefit is provided by having clear, concise, complete and update text of the regulations and standards.
- Items 2 & 3 are proposals from the Residential Fire Sprinkler Working Group to provide clarity for the installation of residential sprinklers. No cost of compliance associated, the benefit is provided by having clear, concise, complete regulations.
- Items 9 – 11 are proposals from the High-Rise Working Group to provide clarity for the installation of fire alarms and editorial changes. No cost of compliance associated, the benefit is provided by having clear, concise, complete regulations while providing design options.
- Items 12-29 are proposals from the I-3 Occupancy Working Group to provide clarity for the construction of detection facilities. No cost of compliance associated, the benefit is provided by having clear, concise, complete regulations.
- Items 33 - 32 are proposals from the E Occupancy Working Group to provide clarity for the construction of schools. No cost of compliance associated, the benefit is provided by having clear, concise, complete regulations while providing design options.
- Item 33 is state mandated by SB 945.
- Item 34 proposal is editorial. No cost of compliance associated, the benefit is provided by having clear, concise, complete regulations

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS

The SFM has determined that this proposed rulemaking action does not unnecessary duplicate or conflict with federal regulations contained in the Code of Federal Regulations that address the same issues as this proposed rulemaking.